

Amendment dated

Reply to Office Action of February 27, 2007

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all previous listings or versions thereof:

Claims 1-41 (canceled)

42. (currently amended) An in-vitro cell, or a cell line, ~~or an in vitro cell membrane preparation or cell vesicle in which there is expression of a functional chloride channel CIC-7 is preferentially functionally expressed with respect to and which:~~

(a) has been genetically modified to contain a transgene construct that overexpresses functional CIC-7;

and/or

(b) has been genetically modified to contain a transgene construct that directly reduces expression of functional one or both of the chloride channels CIC-3; and/or

(c) has been genetically modified to contain a transgene construct that directly reduces expression of functional chloride channel CIC-6;

wherein the cell or cell line exhibits higher levels of expression of functional CIC-7 than of functional CIC-3 or functional CIC-6; or a cell membrane preparation or an in vitro cell vesicle of a said cell or cell line.

43. (currently amended) A cell, or a cell line, ~~or a cell membrane preparation or cell vesicle as claimed in claim 42, in which the functional chloride channel CIC-7 is endogenously functionally expressed, but in which one or both of functional the chloride channels CIC-3 and chloride channel CIC-6 is not expressed or is expressed to only a reduced functional extent, or a cell membrane preparation or in vitro cell vesicle of a said cell or cell line.~~

44. (currently amended) A cell, or a cell line, ~~or a cell membrane preparation or cell vesicle as claimed in claim 43, which has been genetically modified to contain transgene constructs that directly reduce expression of both functional CIC-3 and functional CIC-6, wherein the cell or cell line exhibits higher levels of expression of functional CIC-7 than of functional CIC-3 and higher expression of functional CIC-7 than of functional CIC-6, or a cell membrane preparation~~

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or in vitro cell vesicle of a said cell or cell line, in which both of the chloride channels CIC-3 and CIC-6 are not expressed or are expressed only to a reduced functional extent.

45. (currently amended) A cell, or a cell line, or a cell membrane preparation or cell vesicle according to claim 42, which has been genetically modified to contain transgene constructs that directly reduce expression of each of the functional chloride channels CIC-3, CIC-4, CIC-5 and CIC-6, wherein the cell or cell line exhibits higher levels of expression of in which the chloride channel functional CIC-7 than of each of functional CIC-3, functional CIC-4, functional CIC-5 and functional CIC-6, is functionally preferentially expressed with respect to each of the chloride channels CIC-3, CIC-4, CIC-5 and CIC-6 or a cell membrane preparation or in vitro cell vesicle of a said cell or cell line.

46. (currently amended) A cell, or a cell line, or a cell membrane preparation or cell vesicle according to claim 42, in which the functional chloride channel CIC-7 is functionally expressed, but in which functional the chloride channels CIC-3, CIC-4, CIC-5 and CIC-6 are not expressed or are expressed to only a reduced functional extent, or a cell membrane preparation or in vitro cell vesicle of a said cell or cell line.

47. (currently amended) A cell, or a cell line according to claim 45, which has been genetically modified to contain transgene constructs that directly reduce expression of each of functional chloride channels CIC-1, CIC-2, CIC-Ka, CIC-Kb, CIC-3, CIC-4, CIC-5 and CIC-6, wherein the cell or cell line exhibits higher levels of expression of functional CIC-7 than of each of functional CIC-1, functional CIC-2, functional CIC-Ka, functional CIC-Kb, functional CIC-3, functional CIC-4, functional CIC-5 and functional CIC-6, or a cell membrane preparation or in vitro cell vesicle of a said cell or cell line, or a cell membrane preparation or cell vesicle according to claim 46, which does not express or expresses to only a reduced functional extent the chloride channels CIC-1, CIC-2, CIC-Ka, CIC-Kb, CIC-3, CIC-4, CIC-5 and CIC-6.

48. (currently amended) An in vitro cell, or a cell line, or an cell vesicle in which there is expression of a functional chloride channel CIC-3 and which:

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(a) has been genetically modified to contain a transgene construct that overexpresses functional ClC-3; and/or

(b) has been genetically modified to contain a transgene construct that directly reduces expression of functional chloride channel ClC-7; wherein the cell or cell line exhibits higher levels of expression of the chloride channel functional ClC-3 is preferentially functionally expressed with respect to the chloride channel than of functional ClC-7, or a cell membrane preparation or *in vitro* cell vesicle of a said cell or cell line.

49. (currently amended) A cell, or a cell line, or a cell membrane preparation or cell vesicle as claimed in claim 48, which has been genetically modified to contain a transgene construct that directly reduces expression of functional chloride channel ClC-7, or a cell membrane preparation or *in vitro* cell vesicle of a said cell expresses the chloride channel ClC-3, but does not express or expresses only to a reduced functional extent the chloride channel ClC-7.

50. (currently amended) An *in vitro* cell, or a cell line in which there is expression of a functional chloride channel ClC-4 and which:

(a) has been genetically modified to contain a transgene construct that overexpresses functional ClC-4; and/or

(b) has been genetically modified to contain a transgene construct that directly reduces expression of functional chloride channel ClC-7; wherein the cell or cell line exhibits higher levels of expression of functional ClC-4 than of functional ClC-7, or a cell membrane preparation or *in vitro* cell vesicle of a said cell or cell line.

An cell vesicle in which the chloride channel ClC-4 is preferentially functionally expressed with respect to the chloride channel ClC-7.

51. (currently amended) A cell, or a cell line, or a cell membrane preparation or cell vesicle as claimed in claim 50, which expresses the chloride channel ClC-4, but does not express or expresses only to a reduced functional extent the functional chloride channel ClC-7, or a cell membrane preparation or *in vitro* cell vesicle of a said cell or cell line.

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52. (currently amended) A cell, or a cell line, ~~or a cell membrane preparation or cell vesicle~~ as claimed in claim 51, which expresses the chloride channel ClC-4, and which has been genetically modified to contain transgene constructs that directly reduce expression of each of but does not express or expresses only to a reduced functional extent the functional chloride channels ClC-3, ClC-5, ClC-6 and ClC-7, or a cell membrane preparation or *in vitro* cell vesicle of a said cell or cell line.

53. (currently amended) An *in vitro* cell, or a cell line in which there is expression of a functional chloride channel ClC-6 and which:

(a) has been genetically modified to contain a transgene construct that overexpresses functional ClC-6; and/or

(b) has been genetically modified to contain a transgene construct that directly reduces expression of functional chloride channel ClC-7; wherein the cell or cell line exhibits higher levels of expression of functional ClC-6 than of functional ClC-7, or a cell membrane preparation or *in vitro* cell vesicle of a said cell or cell line in which the chloride channel ClC-6 is preferentially functionally expressed with respect to the chloride channel ClC-7.

54. (currently amended) A cell, or a cell line, ~~or a cell membrane preparation or cell vesicle~~ as claimed in claim 53, which expresses the chloride channel ClC-6, but does not express or expresses only to a reduced functional extent the functional chloride channel ClC-7, or a cell membrane preparation or *in vitro* cell vesicle of a said cell or cell line.

55. (currently amended) A cell, or a cell line, ~~or a cell membrane preparation or cell vesicle~~ as claimed in claim 4854, which expresses the chloride channel ClC-3 and the chloride channel ClC-6, but does not express or expresses only to a reduced functional extent the functional chloride channel ClC-7, or a cell membrane preparation or *in vitro* cell vesicle of a said cell or cell line.

56. (currently amended) A cell, or a cell line, ~~or a cell membrane preparation or cell vesicle~~ as claimed in claim 4855, which expresses the functional chloride channels ClC-1, ClC-2, ClC-Ka, ClC-Kb, ClC-3, ClC-4, ClC-5 and ClC-6, but does not express or expresses only to a reduced

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functional extent the functional chloride channel ClC-7, or a cell membrane preparation or in vitro cell vesicle of a said cell or cell line.

57. (currently amended) A cell, or a cell line, ~~or a cell membrane preparation or cell vesicle~~ as claimed in claim 48, which expresses the chloride channel ClC-3, ~~but does not express or expresses to only a reduced functional extent and which has been genetically modified to contain transgene constructs that directly reduce expression of each of functional the chloride channels ClC-4, ClC-5, ClC-6 and ClC-7, or a cell membrane preparation or in vitro cell vesicle of a said cell or cell line.~~

58. (currently amended) A cell, or a cell line, ~~or a cell membrane preparation or cell vesicle~~ as claimed in claim 53, which expresses the chloride channel ClC-6, ~~but does not express or expresses to only a reduced functional extent and which has been genetically modified to contain transgene constructs that directly reduce expression of each of the functional chloride channels ClC-3, ClC-4, ClC-5 and ClC-7, or a cell membrane preparation or in vitro cell vesicle of a said cell or cell line.~~

59. (previously presented) A method for the identification and testing of substances suitable for inhibiting the chloride channel ClC-7, which method comprises contacting substances to be tested with cells, cell membranes, or cell vesicles as claimed in claim 42 and measuring the effect of said substances on the activity of chloride channels in said cells, cell membranes, or cell vesicles

60. (previously presented) A method as claimed in Claim 59, for the identification and testing of active compounds for treatment of osteoporosis or Paget's disease.

61. (previously presented) A method for the identification and testing of substances suitable for inhibiting the chloride channel ClC-3, which method comprises contacting substances to be tested with cells, cell membranes, or cell vesicles as claimed in claim 48 and measuring the effect of said substances on the activity of chloride channels in said cells, cell membranes or cell vesicles.

62. (previously presented) A method for the identification and testing of substances suitable for inhibiting the chloride channel ClC-6, which method comprises contacting substances to be tested with cells, cell membranes, or cell vesicles as claimed in claim 53 and measuring the effect of said substances on the activity of chloride channels in said cells, cell membranes, or cell vesicles.

63. (previously presented) A method for the identification and testing of substances suitable for inhibiting the chloride channel ClC-4, which method comprises contacting substances to be tested with cells, cell membranes, or cell vesicles as claimed in claim 50 and measuring the effect of said substances on the activity of chloride channels in said cells, cell membranes or cell vesicles.

64. (previously presented) A method as claimed in Claim 59 or any one of claims 61 to 63, for the identification and testing of active compounds which are suitable as psychotropic pharmaceuticals.

65. (previously presented) A process for the identification and testing of substances which are suitable for inhibiting one or more chloride channels from the group consisting of ClC-3, ClC-4, ClC-6 and/or ClC-7, in which:

a) on cells according to any one of claims 42 to 58, the luminal pH of the compartments which express the channel and/or the potential across the membrane enclosing the channel is measured,

b) the cells are brought into contact with a substance and

c) the luminal pH of the compartments which express the channel and/or the potential across the membrane enclosing the channel is measured again on the cells,

the difference between the pH and/or the membrane potential before and after addition of the substance determining the activity of the substance.

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66. (previously presented) A process according to claim 65, wherein the pH is measured by accumulation of substances in compartments with a particular pH or detection of indicator substances which are formed in pH-dependent reactions in the compartments.

67. (previously presented) A process according to claim 65, wherein the potential is measured using potential-sensitive dyestuffs or protein-coded potential sensors.